



EXPERIMENT - 7

Object Oriented Programming Lab

Aim

To create a function power to raise a number m to a power n . The function takes double value for m and integer value for n . Use default value for n to make the function. Calculate the squares when this argument is omitted.

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Source Code:

```
#include <iostream>

using namespace std;

float power(double base, int powr = 0){
    if (powr == 0) {
        return base * base;
    }
    float res = 1;
    for (int i = 0; i < powr; ++i) {
        res *= base;
    }
    return res;
}

int main(){
    int powr;
    double base;
    cout << "Enter the number whose power you want to calculate:- " << endl;
    cin >> base;
    cout << "Enter the power of the base:- " << endl;
    cin >> powr;
```

```
    cout << "The result of " << base << " to the power " << powr << " is " << pow  
er(base, powr) << endl;  
    return 0;  
}
```

Output:

```
PS D:\sem 4\cpp\oops> cd "d:\sem 4\cpp\oops\" ; if ($?) { g++ power.cpp -o power } ; if ($?) { .\power }
Enter the number whose power you want to calculate:-
2
Enter the power of the base:-
18
The result of 2 to the power 18 is 262144
PS D:\sem 4\cpp\oops> cd "d:\sem 4\cpp\oops\" ; if ($?) { g++ power.cpp -o power } ; if ($?) { .\power }
Enter the number whose power you want to calculate:-
12
Enter the power of the base:-
12
The result of 12 to the power 12 is 8.9161e+12
PS D:\sem 4\cpp\oops> █
```

Viva Questions

1. What is an abstract class and when do you use it?

Ans.

A class is called an abstract class whose objects can never be created. Such a class exists as a parent for the derived classes. We can make a class abstract by placing a pure virtual function in the class.

2. What are destructors in C++?

Ans.

A constructor is automatically called when an object is first created. Similarly when an object is destroyed a function called destructor automatically gets called. A destructor has the same name as the constructor (which is the same as the class name) but is preceded by a tilde.